

REMARKS

Responsive to the Office Action dated 19 June 2002, claims 1-13 have been amended. Claims 1-13 are currently pending in the application. No new matter has been added. Reconsideration of the claims is respectfully requested.

In paragraph 1 on page 2 of the Office Action, claims 1-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over alleged admitted prior art disclosed in the specification under background of the invention on pages 1-2 in view of Helm and Cox.

Three criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the cited reference, or combination of references, must teach or suggest all the claim limitations. MPEP §2142.

Applicant respectfully traverses the rejections because the cited references fail to disclose all the claim limitations and there would be no motivation to combine the references as proposed in the Office Action.

The Applicant sets forth, in independent claim 1, a clock generating method for an asynchronous transmission. The method includes determining and averaging a plurality of actual signal arrival times. The method also includes correcting a timing of a receiving clock on a basis of a calculated average of actual signal arrival times and an expected signal arrival time.

The following significant advantage is obtained via application of the Applicant's claimed invention. By averaging the actual arrival time, delay variations upon signal transmission can be eliminated or significantly reduced. Synchronization errors are also prevented because the receiving clock can be adjusted so that an expected signal arrival time will coincide with an actual arrival time.

The Office Action has characterized the background of the invention set forth in the specification as being admitted prior art. The Applicant respectfully disagrees that the Applicant's specification is in any way capable of being characterized as admitted prior art. The background of the invention of the specification merely places the Applicant's claimed invention into the technical field as required by US practice. The Applicant respectfully traverses the characterization that the background of the invention is admitted prior art.

The alleged admitted prior art set forth in Applicant's background of the invention discloses significant disadvantages overcome via application of the Applicant's claimed invention, such as for example, delay variations upon signal transmission and synchronization errors. The alleged admitted prior art is different than the Applicant's claimed invention because the alleged admitted prior art merely discloses that without synchronization the frequencies of the transmitting clock and the receiving clock are unequal whereas the Applicant sets forth correcting the timing of a receiving clock on a basis of a determined average of actual signal arrival times and an expected signal arrival time. The Applicant's claimed invention at least solves the problems set forth in the Applicant's background of the invention and is therefore clearly different therefrom.

Page 6
Docket Number: 975.305USW1
Office Action Response

Helm fails to remedy the deficiencies set forth in the Applicant's background of the invention. Helm merely discloses voting window determination in a diversity repeater. In Helm, arrival time differentials for each frame set are averaged together and a voting window determiner uses the resulting averaged set to determine a new voting window. Helm, even if combined with Applicant's alleged admitted prior art, is different than the Applicant's claimed invention because the combination merely discloses a calculation method for determining a new voting window whereas the Applicant sets forth in the independent claims correcting the timing of a receiving clock on a basis of a determined average of actual signal arrival times and an expected signal arrival time.

Further regarding Helm, the Applicant respectfully traverses the Office Action's position that Helm is combinable with the Applicant's alleged admitted prior art and/or Cox. Helm is related to the general field of telecommunications, however, Helm merely discloses time stamping of frames and frame sets. It would not have been obvious to an ordinarily skilled artisan to have been motivated to combine the disclosure of Helm with Applicant's alleged admitted prior art and/or the disclosure of Cox to arrive at the Applicant's claimed invention because time stamping of frames is technically far removed from correcting a timing of a receiving clock as set forth in the Applicant's independent claims.

Cox fails to remedy the deficiencies of Helm and the Applicant's alleged admitted prior art. Cox merely discloses clock recovery method that employs periodically sampling a buffer fill level and comparing the fill level with an estimated maximum fill level to determine a volume of network traffic. Cox, even if combined

Page 7
Docket Number: 975.305USW1
Office Action Response

with Helm and Applicant's alleged admitted prior art, is different than Applicant's claimed invention because the combination merely discloses monitoring and comparing a buffer fill level to a maximum fill level to determine network traffic whereas the Applicant sets forth in the independent claims correcting the timing of a receiving clock on a basis of a determined average of actual signal arrival times and an expected signal arrival time.

The Applicant respectfully asserts that independent claims 1 and 7 are allowable over the cited references for the reasons set forth above and because the combination of cited references does not disclose, teach or suggest all the limitations set forth in the Applicant's claimed invention.

Dependent claims 2-6 and 8-13, which are dependent from independent claims 1 and 7, were also rejected under 35 U.S.C. §103(a) as being unpatentable over alleged admitted prior art, Helm, and Cox. While the Applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claim 1. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims from the cited references. Therefore, it is respectfully asserted that dependent claims 2-6 and 8-13 are also in condition for allowance.

In view of the amendments and reasons provided above, it is respectfully asserted that all pending claims are in condition for allowance. Applicant respectfully requests favorable reconsideration and early allowance of all pending claims.

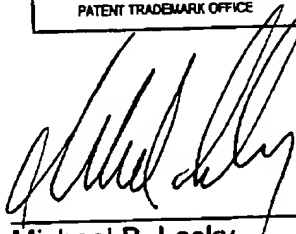
Page 8
Docket Number: 975.305USW1
Office Action Response

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Michael B. Lasky at 952-253-4106.

Respectfully submitted,
Altera Law Group, LLC



Date: 16 October 2002 By: _____


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MBL/ftf/jsa

APPENDIX A
MARKED UP VERSION OF THE ENTIRE CLAIM SET

The entire set of pending claims is provided for the Examiner's convenience.

Please amend the claims as follows.

1. (Amended Once) A clock generating method for an asynchronous transmission, comprising [the steps of]:

determining a plurality of actual signal arrival times;

averaging [said] the plurality of actual signal arrival times; and

correcting a timing of a receiving clock on [the] a basis of [said] an average of the plurality of actual signal arrival times and an expected signal arrival time.

2. (Amended Once) [A] The method according to claim 1, [wherein said] further comprising deriving an expected signal arrival time [is derived] from [said] the receiving clock.

3. (Amended Twice) [A] The method according to claim 1, wherein [said] determining [step] further comprises counting a time period between [the] arrival of a first signal and [the] arrival of a subsequent second signal.

4. (Amended Once) [A] The method according to claim 3, wherein [said] averaging [step] further comprises storing [said] counted time periods and calculating an average of [said] stored time periods.

5. (Amended Twice) [A] The method according to claim 1, wherein [said] correcting [step] further comprises:
determining a frequency difference between a frequency corresponding to [said] an average of [said] the plurality of actual signal arrival times and a frequency of [said] the receiving clock; [,] and
changing the frequency of [said] the receiving clock according to [said] the frequency difference.

6. (Amended Twice) [A] The method according to claim 1, wherein the asynchronous transmission is an ATM transmission and the signal is an ATM cell.

7. (Amended Once) A clock generating apparatus for [an] asynchronous transmission [,] comprising:
[determining] means [(20)] for determining an average of actual signal arrival times and for generating a control signal on [the] a basis of [said] a determined average of the actual signal arrival times and an expected signal arrival time; and
[correcting] means [(40)] for correcting a timing of a receiving clock on [the] a basis of [said] the control signal.

8. (Amended Once) [An] The apparatus according to claim 7, wherein [said] the means for correcting [means] comprises a voltage controlled oscillator [(40)].

9. (Amended Twice) [An] The apparatus according to claim 7, wherein [said] the means for determining [means (20)] comprises:

[detecting] means [(21)] for detecting an actual arrival time of a signal;

[averaging] means [(23)] for averaging a plurality of detected actual signal arrival times in order to obtain [said] an average of the actual signal arrival times; and

[correction control] means [(24)] for comparing and correction control [said] the average of the actual signal arrival times with [said] the expected signal arrival time and for generating [said] the control signal in accordance with [the] a comparison result, wherein [said] the expected signal arrival time is derived from [said] the receiving clock.

10. (Amended Once) [An] The apparatus according to claim 9, wherein [said] the means for determining [means (20)] comprises [storing] means [(22)] for storing [said] a plurality of detected actual signal arrival times.

11. (Amended Twice) [An] The apparatus according to claim 9, wherein [said] the means for detecting [means (20)] comprises a timer.

12. (Amended Twice) [An] The apparatus according to claim 9, wherein [said] correction control [means for comparing and correction control [(24)] comprises a phase detector, and wherein a polarity of [said] the control signal is changed in accordance with [the] a result of comparison.

13. (Amended Twice) [An] The apparatus according to claim 7, wherein the asynchronous transmission is an ATM transmission and the signal is an ATM cell.

Page 13
Docket Number: 975.305USW1
Office Action Response